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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,153	04/05/2004	Takashi Akase	Q80941	1197

23373 7590 04/05/2007  
SUGHRUE MION, PLLC  
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SUITE 800  
WASHINGTON, DC 20037

EXAMINER
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UHLENHAK, JASON S

ART UNIT	PAPER NUMBER
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2853

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/817,153

Applicant(s)

AKASE, TAKASHI

Examiner

Jason Uhlenhake

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahne et al (U.S. Pat. 6,637,853) in view of Murakami (U.S. Pat. 6,082,911)

#### ***Ahne discloses:***

- ***regarding claims 1, 12***, printing method for printing by forming dots on a medium using a movable print head (Column 3, Lines 39 – 50)
- step of moving said print head by a first set amount from a reference position used when printing and printing a first reference pattern (10) on said medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
- step of detecting a position of an edge of said medium on the reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)
- step of moving said print head to a position that is apart by a second set amount from said position of the edge that has been detected and printing a second reference pattern (12a-12d) with a plurality of nozzles that are arranged along a direction in which said medium is fed (Figure 3; Column 4, Lines 22 – 41)

- **regarding claim 3**, print head prints target information on the medium by forming dots by ejecting or sublimating ink
- **regarding claim 6**, one or more line segments, among the lines configuring the plurality of line segments, is printed in a single movement of the print head (Column 4, Lines 13-32)
- **regarding claim 7**, an edge of the medium is detected by an optical sensor; and said print head prints said second reference line using the edge of the medium that has been detected by said optical sensor as a reference (Column 6, Lines 11 – 30; Column 4, Lines 22 – 41)
- **regarding claim 8**, a computer readable medium (Column 2, Lines 65 – 67; Column 3, Lines 1 – 30), comprising the following codes:
  - code for moving a movable print head by a first set amount from a reference position used when printing and printing a first reference pattern on the medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
  - code for detecting a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)
  - code for moving said print head to a position that is apart by a second set amount from said position of the edge that has been detected and printing a second reference pattern with a plurality of nozzles that are arranged along a direction in which said medium is fed (Column 4, Lines 22 – 41)
- **regarding claim 9**, printing apparatus comprising: a movable print head for performing printing by forming dots on a medium (Column 3, Lines 39 – 50)

Art Unit: 2853

- sensor for detecting an edge of the medium (Column 6, Lines 10 – 23)
- controller for controlling operation of said print head and said sensor  
(Column 3, Lines 52 – 59)
- controller causes: print head to move by a first set amount from a reference position used when printing and print a first reference pattern on the medium  
(Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
- said sensor to detect a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)
- said print head to move to a position that is apart by a second set amount from said position of the edge that has been detected and print a second reference pattern with a plurality of nozzles that are arranged along a direction in which said medium is fed (Column 4, Lines 22 – 41)
- **regarding claim 10**, printing system comprising: a printing apparatus and a computer that is capable of communicating with said printing apparatus (Column 2, Lines 65 – 67; Column 3, Lines 1 – 30)
- printing apparatus includes: a movable print head for performing printing by forming dots on a medium (Column 3, Lines 39 – 50)
- a sensor for detecting an edge of the medium (Column 6, Lines 10 – 23)
- a controller for controlling operation of said print head and said sensor  
(Column 3, Lines 52 – 59)

Art Unit: 2853

- controller causes: print head to move by a first set amount from a reference position used when printing and print a first reference pattern on the medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
- said sensor to detect a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)
- said print head to move to a position that is apart by a second set amount from said position of the edge that has been detected and print a second reference pattern with a plurality of nozzles that are arranged along a direction in which said medium is fed (Column 4, Lines 22 – 41)
- **regarding claim 11**, a pattern for correction, which is used with a printing apparatus for printing by forming dots on a medium using a movable print head and which is for setting a print start position of said print head (Column 3, Lines 39 – 50)
- a first reference pattern that is printed by said print head after said print head has been moved by a first set amount from a reference position used when printing (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
- a second reference pattern that is printed by said print head with a plurality of nozzles that are arranged along a direction in which said medium is fed after said print head has been moved to a position that is apart by a second set amount from a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 11 – 30; Column 4, Lines 22 – 41)

***Ahne et al does not disclose expressly the following:***

- **regarding claims 4, 12-13**, wherein either one of the first reference pattern or the second reference pattern is printed while suitably changing either one of the first set amount or second set amount

- **regarding claim 3**, a print start position of the print head is corrected in accordance with a correction amount that is determined according to a relationship between the first reference pattern and the second reference pattern

- **regarding claim 5**, print start position is corrected in accordance with a set amount of a line segment, among the plurality of line segment, that is closest to the other reference pattern

***Murakami discloses:***

- **regarding claims 4, 12-13**, wherein either one of the first reference pattern or the second reference pattern is printed while suitably changing either one of the first set amount or second set amount (Figures 1, 8; Column 19, Lines 21-68), for the purpose of judging a propriety of a printing position.

- **regarding claim 3**, a print start position of the print head is corrected in accordance with a correction amount that is determined according to a relationship between the first reference pattern and the second reference pattern (Abstract; Column 20, Lines 7-21), for the purpose of judging a propriety of a printing position

- **regarding claim 5**, print start position is corrected in accordance with a set amount of a line segment, among the plurality of line segment, that is closest to the other reference pattern (Abstract; Column 20, Lines 7-21; 34-43), for the purpose of judging a propriety of a printing position

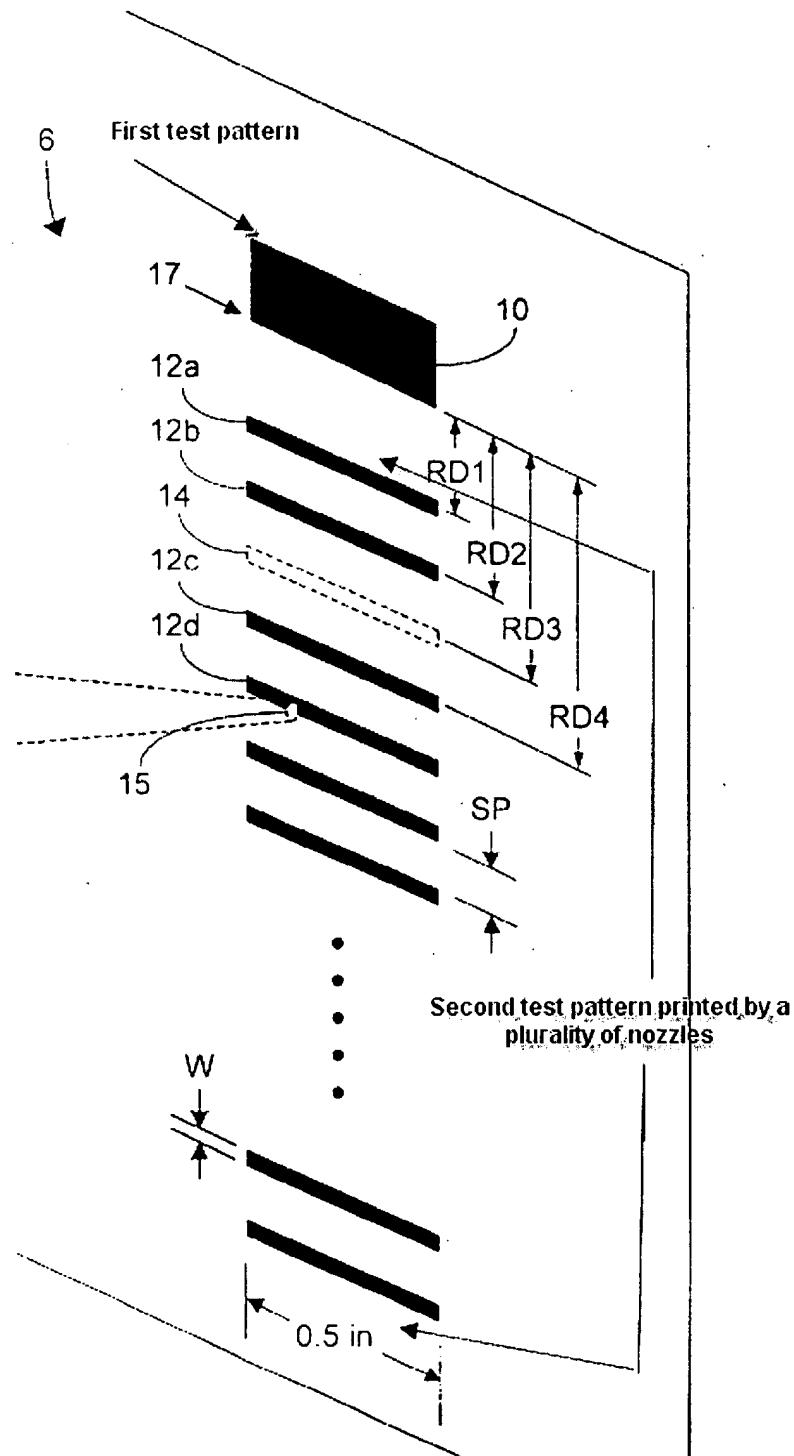
At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Murakami into the device of Ahne, for the purpose of judging propriety of a printing position

### ***Response to Arguments***

Applicant's arguments filed 1/19/2007 have been fully considered but they are not persuasive. Regarding claims 1, and 3-13, applicant argues that Ahne does not disclose "printing a second reference pattern with a plurality of nozzles that are arranged along a direction in which said medium is fed". However, Ahne discloses printing a second pattern (12a-12d) with each nozzle on the print head (Figure 3; Column 4, Lines 42-54). The examiner notes that the pattern that is printed is not clearly defined within the claim language, so the second test pattern in Ahne is being defined as 12a-12d as seen in figure 3.



Art Unit: 2853



***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

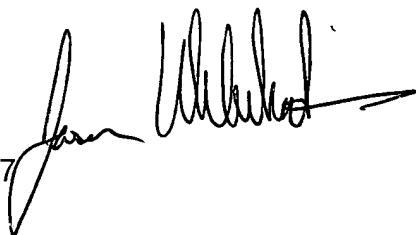

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU  
March 30, 2007

A handwritten signature in black ink, appearing to be "JSU", written over the typed name and date.A handwritten signature in black ink, appearing to be "Stephen Meier", written over the typed name and title.

**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**